

## Daniele Caratelli

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### Education

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**Stanford University**  
Ph.D., Economics

Stanford, CA  
expected 6/2022

**The University of Chicago**

Bachelor of Arts, degree in Mathematics (with Honors) and Economics (with Honors)

Chicago, IL  
6/2015

**Liceo Scientifico Leonardo da Vinci** (Scientific High School Leonardo da Vinci)

Florence, Italy  
7/2011

### Experience

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#### Economic Research

- **Research Analyst and Summer Intern** Federal Reserve Bank of New York (2014 & 2015-2017)  
Conducted macroeconomic and time-series econometrics research under Dr. Domenico Giannone and Dr. Argia Sbordone. Set up infrastructure to run and evaluate the FRBNY Nowcasting model enabling its publication. Studied effects of macroeconomic *news* on treasury yields, exchange rates and equity prices ultimately culminating in *The Low Frequency Effects of Macroeconomic News on Government Bond Yields*. Benchmarked parts of the FRBNY stress-testing model evaluating the performance of Bayesian shrinkage applications of econometrics versus “standard” models.  
Worked on the New York Fed DSGE model and translated part of its coding infrastructure into *Dynare*.
- **Research Assistant** Booth School of Business (2014-2015)  
Assisted Professor Randall Kroszner in research for *The Future of Banks: Will Commercial Banks Remain Central to the Financial System?* (March 2015). Researched major central banks’ monetary policy, the role of Bitcoin as a currency and shadow banking in the United States vs. other OECD countries. Researched labor market activity with a concentration on the inability of ordinary indicators to explain slack. Prepared material for Prof. Kroszner’s 2015 Booth Economic Outlook
- **Other Research Assistantships** Booth School of Business (2013-2014)  
Assisted Professor of Accounting Haresh Sapra (Booth). Researched current regulation and the effects of regulation on firms and social welfare.

#### Mathematics Research

University of Chicago, Dept. of Mathematics (2012)

- Participated in the 2012 Math Research Experience for Undergraduates at The University of Chicago. Followed an intense linear algebra course taught by Professor Laszlo Babai
- Wrote a research paper, *Brouwer Fixed Point Theorem*. Here I proved that a continuous function from an  $n$ -dimensional disk to itself always maintains at least one fixed point. The proof uses an approach involving differential topology

### Academic Awards

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- *David S. Hu Award* for best thesis in macroeconomics, The University of Chicago Department of Economics
- *The Becker Friedman Institute Award for Academic Achievement*, The Becker Friedman Institute

## Publications & Presentations

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- *Macroeconomic Nowcasting and Forecasting with Big Data*, *Annual Review of Economics* (forthcoming).  
With Bok B., Giannone D., Sbordone A., Tambalotti A.  
In this work we present in detail the methodology underlying the New York Fed Staff Nowcast, which employs these innovative techniques to produce early estimates of GDP growth, synthesizing a wide range of macroeconomic data as they become available.
- *Breaking The Eurozone: What Are The Consequences?*, Michigan Journal of Business, 2015 edition.  
This work studies the steady state welfare implications of an abrupt breakup in the Euro Area which allows for each of the two regions the Union splits up into to have monetary independence. Furthermore, I perturb the steady states with monetary policy shocks (foreign and domestic) and study the dynamics of consumption and inflation. All of this analysis uses a two-region DSGE model where the regions are open to each other and trade.
- *Just Released: Introducing the FRBNY Nowcast*, Liberty Street Blog, April 12, 2016. With Aarons G., Cocci M., Giannone D., Sbordone A., Tambalotti A.  
With this blog post, the Time-Series team at the New York Fed, came out publicly with the *FRBNY Staff Nowcasting Report* which provides a measure to track GDP growth in the US economy. The post, analyzes the methodology and output of the model.
- *May's Indexes of Coincident Economic Indicators Show Economic Growth Moderating across the Region*, FRBNY Liberty Street Blog, June 24, 2016. With Jason Bram.
- Presented *Breaking The Eurozone: What Are The Consequences?* at the Midwest Economic Association, Minneapolis, MN, 2015. For this occasion, I was awarded a traveling grant by the Dean's Fund of the University of Chicago.

## Contributor

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- *Low Frequency Effects of Macroeconomic News on Government Bond Yields*  
This paper analyzes the effect of macroeconomic *news* (the surprise of economic releases, i.e. the actual official release minus the market expectation for that release) on the U.S. Treasury bond market. I contributed to the final revision to this paper by quantifying how well macro news explained yields and by coming up with a measure of the optimal filtering frequency (necessary to remove the noise of higher frequency data). A potential extension is currently being pursued looking at the effects of macro news on equity prices (this work would include me as a co-author).
- *The Future of Banks: Will Commercial Banks Remain Central to the Financial System?*  
This paper provides an analysis of the challenges and opportunities that commercial banks face and what role technology, regulators and central banks play in these dynamics.

## Other Activities

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- UChicago Fed Challenge Team, 2013
- High School Class President, 2006-2011
- Math tutor at Bret Harte elementary, Chicago, IL, 2012-2013

## Skills & Interests

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- **Languages and Status:** fluent in Italian, conversant in French. United States and Italian citizen
- **Computer:** Matlab, Julia, C, Stata, R, VBA
- **Economic Interests:** Macroeconomics and Monetary Policy, Macro-Labor, Network Theory
- **Interest:** cooking, cycling, playing the piano: trained in classical music but like to experiment with jazz